5/11/95

MAGMA COPPER COMPANY

FLORENCE PROJECT

May 8, 1995

Ms. Shirin Tolle
Aquifer Protection Project Officer
Arizona Department of Environmental Quality
3033 North Central Avenue
Phoenix, Arizona 85012

15-1899/05

Subject: Magma Copper Company, Florence Project
Monthly Progress Report
April 1995

Dear Ms. Tolle:

Magma Copper Company (Magma) is pleased to provide the April 1995 Progress Report for the Florence Project.

Drilling and Well Installation Progress

Two monitoring wells have been installed: one northwest of the proposed in-situ mine area (M8), and one in the center of ore body (M13, see Table 1). These represent the completion of the monitoring well cluster northwest of the in-situ mine perimeter and the deepest well at the monitoring well cluster in the center of the ore body. All, except well M13, were developed during April and the estimated production of these wells is shown on Table 1.

A full suite of geophysical logs were completed in M13. Based on the correlation of these logs, the bottom of the Gila Conglomerate is estimated to be at a depth of 360 feet below the ground surface (bgs). The top of the sulfide ore body was encountered at a depth of 820 feet bgs.

Drilling in May is scheduled to include completion of the monitoring well clusters in the center and southeast of the in-situ mine area. It is anticipated that groundwater sampling of the northwest monitoring well cluster will be completed during May.

Modeling Activities

The proposed domain for the groundwater flow model includes from west to east, UTM coordinate 646,000 to 653,000 and from south to north, 743,000 to 748,000. This represents a domain area of 7,000 feet west to east and 5,000 feet south to north. The parameters used for the groundwater flow and transport modeling were presented to the Arizona Department of Environmental Quality (ADEQ) in the Aquifer Protection Permit (APP) Application Work Plan

Response to Supplemental Items dated April 28, 1995. Table 3 of this submittal includes the current and future groundwater modeling parameters.

Conceptual design of the proposed geochemical column testing was completed during April. The proposed design was presented to ADEQ in the APP Application Work Plan Response to Supplemental Items dated April 28, 1995. Core is currently being pulled for shipment to the testing laboratory in Tucson for column testing. The main objectives of this testing are: 1) to determine the acid leachability of the various modes of copper mineralization, 2) to analyze and document the natural acid attenuation capacity of the various rock formations, and 3) to analyze and document the natural metal attenuation capacity of the various rock formations in and around the Florence in-situ mining area.

Aquifer Protection/Underground Injection Control Permit Activities

A preliminary universal well design, an operation plan and the well abandonment procedures were included in the APP Application Work Plan Response to Supplemental Items dated April 28, 1995. This conceptual document describes the typical designs of the injection and extraction wells. A universal well design was employed to allow economy of operation, standardized operating procedures, and ease of installation. The design of unit wells for Class III type wells, coupled with the procedures presented are believed to be the best available control technology. Magma believes that the design of these wells, in conjunction with initial and periodic packer tests and the shut-down protection built into the system, meets the best available control technology criteria.

Additional Activities During April

On April 10, 1995, Magma provided a response to the ADEQ APP Application Work Plan comments. This response included a list of supplemental items that Magma proposed to submit to ADEQ for the Florence Project. On April 28, 1995, Magma submitted 11 supplemental items including: 1) a table of current and proposed facilities including the status and a determination of applicability, 2) a map showing the existing workings, existing core holes, planned core holes, existing wells, planned wells and planned aquifer test wells, 3) a correlation table for the above map, 4) a table and map for the 1/2-mile well survey for the Florence Project, 5) the expanded analyte list proposed for the groundwater sampling program, 6) gauging data for the Gila River, 7) Material Safety Data Sheets for the anticipated and proposed drilling additives, and 8) specifications for the air filters used during drilling.

Mine tours were conducted on April 19 and 20, 1995 at San Manuel and Florence. Both you and Jose Gutierrez (U.S. EPA) were present at the San Manuel tour of the in-situ leach fields and the Solvent Extraction/Electrowinning plant. The tour at Florence on April 20 included: representatives from the U.S. EPA, the Inter Tribal Council of Arizona, representatives of the Salt River and AK-CHIN Indian Communities, and the Arizona State Historical Preservation Office.

ADEQ has been very responsive to the needs and requests from the Magma Florence Project Team. Magma wishes to formally commend the ADEQ APP Team for the time and effort they dedicated to the Florence Project. If you have any questions, please do not hesitate to contact me at (520) 868-5094 or Mr. Steve Mellon at Brown and Caldwell, telephone number (602) 222-4445 or (520) 868-0474.

Very truly yours,

John Kline
Environmental Project Manager

JK:rbb

Table 1. Well Installation Data							
		Screen Material			Riser Pipe		
Well Number	Total Depth (feet)	Type	Diameter (inches)	Depth (feet)	Type	Diameter (inches)	Estimated Production Rate (gpm)[d]
M9	1,578	Stainless Steel	4	1,510 to 1,570	Low carbon steel	5 and 4[a]	0.9
M8	1,115	PVC	4	1,010 to 1,070	Low carbon steel	5 and 4[a]	25
M7	940	PVC	4	859 to 919	Low carbon steel	5 and 4[c]	1.1
M6	590	PVC	5	524 to 562.5	PVC	5	7.5
M13	943	PVC	5	851 to 911	Low carbon steel	5	NA

[a] Tapered riser pipe from 5-inch to 4-inch casing at 998 feet below the ground surface.
[b] Tapered riser pipe from 5-inch to 4-inch casing at 591 feet below the ground surface.
[c] Tapered riser pipe from 5-inch to 4-inch casing at 591 feet below the ground surface.
[d] Preliminary data collected during development only.

gpm = gallons per minute
PVC = polyvinyl chloride
NA = not available